



# Marine Corps Installations-East MCB Camp Lejeune



## Ammunition and Explosives Safety



# POC LISTING



- Marine Corps Installations East-Marine Corps Base Camp Lejeune
  - Mr. Harris Explosive Safety Section Head 451-6280
  - CWO3 Jensen Explosive Safety Officer 451-6281
  - MSgt Sanchez Explosive Safety SNCOIC 451-6279
  - SSgt Mizrahi MCIEAST-MCB Ammo Chief 451-6278
- II Marine Expeditionary Force
  - Maj Goodwin Ammo Officer 451-9643
  - MGySgt Lynch Ammo Chief 450-7566
  - Sgt Peifer Ammo Clerk 451-8898



# POC LISTING



- 2d Marine Division
  - Capt Arnold              Ammo Officer              451-8067
  - MSgt Hollifield              Ammo Chief              451-8378
  - Sgt Carver              Ammo Inspector/Clerk    451-9029
  - Sgt Detwiler              Ammo Inspector/Clerk    451-9029
- 2d Marine Aircraft Wing
  - Sgt \_\_\_\_\_              Ammo Chief              (252) 466-2424
- 2d Marine Logistics Group
  - CWO2 Hollingsworth      Ammo Officer              451-7505
  - SSgt Haskill              Ammo Chief              451-7509



# MCI-E Explosive Safety Offices Points of Contact



MCCDC Quantico Mr. Wolfe 378-1092

MCAS CP Mr. McGaughey 582-3994

MCAS NR Mr. McGowan 749-5443

MCAS Beaufort Mr. Tingly 335-7827

Parris Island Mr. Timmons 335-3345

MCLB Albany Mr. Chop 567-7052

MCSF BIC Mr. Churchill 942-5681

MCB CAMLEJ CWO3 Jensen 751-6281

\*PHONE NUMBERS ARE DSN



# MCO P8020.10B



- Marine Corps Ammunition and Explosives Safety Program.
- This Order provides policy for the implementation, guidance, and oversight of the Marine Corps Ammunition and Explosives Safety Program, and Identifies specific command responsibilities as they apply to the Program.
- Governing Policy for Naval services is the NAVSEA OP 5 Vol 1.



# Annual Training



- In accordance with MCO P8020.10/MCO 5530.14 all Commanders, Officers, and Officer in Charge will ensure Annual AA&E Awareness Training is conducted and incorporated into the annual training and professional military education schedules.
- The MCB ESO provides training annually; slides are available for unit safety and explosives safety reps (on the below website).
- <http://www.lejeune.marines.mil/OfficesStaff/ExplosivesSafety.aspx>



# Cardinal Rule of Explosives Safety

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- Expose the **MINIMUM** number of People.
- To the **MINIMUM** quantity of Explosives.
- For the **MINIMUM** period of Time.
  
- This provides the **MAXIMUM** protection possible to people and property.



# Range OIC

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- Conduct joint inventory/receipt of A&E when delivered (prior to firing).
- Ensure DD Form 1348-1(Issue Doc) and first portion of Expenditure Report are completed (prior to firing).
- Account for and supervise the distribution of A&E.
- **Prior to issue, INSPECT ALL A&E, blank ammo will be inspected for the presence of live ammo.**
- Ensure all applicable Notice of Ammunition Reclassifications (NAR) /Ammo Info Notices

# SAFETY ALERT



## SUSPENDED OR RESTRICTED AMMUNITION & EXPLOSIVES (A&E)

~~USMC and U.S. Navy suspend A&E in respect A&E IAW SB 742-1 and NAVSUP P-801~~

P-801

The A&E quality control program is more effective than any major car manufacturers recall system.

**However, it does not work when leaders ignore suspension/restrictions!**

**Leaders who ignore A&E suspensions/restrictions knowingly endanger personnel!**

For every A&E suspension/restriction there is a good reason  
A&E is tracked by lot number, if a lot is suspended, it may have a critical defect

**CRITICAL: MEANING - IT COULD KILL THE USER**

**LEADERS DO NOT USE OR ALLOW USE OF  
SUSPENDED/DEFECTIVE AMMO**

# SAFETY ALERT

For Ammo assistance find the nearest S-4/G-4 or Installation ESO



# Range OIC

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- Conduct joint inventory, complete DD Form 1348-1 (Turn-In Doc) and Expenditure Report for unexpended ammunition (prior to ammunition leaving the range).
- Ensure that all expended A&E and retrograde material is visually and physically inspected for live A&E prior to leaving the range.
- Ensure Expenditure Report, issue, and turn in documents are turned over to the A&E Officer Upon



# Ammunition Inspections

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- MCIEAST-MCB CAMLEJO 3570.1 Range control SOP/Range Cards
  - Chap 5 Para 1.k. Before conducting live-fire the ROIC/RSO will inspect weapons and ammunition for serviceability.
  - Chap 6 Para 8.a.(3) Small Arms weapons/weapon systems require Pre-Firing Inspection/Limited Technical Inspections (PFI/LTIs) before conducting live-fire.
- MCO 8025.1E Malfunction and Defect Reporting
  - Chap 3 para 1. Prohibits the use of defective ammunition. Defective A&E will be returned to the ASP.



# Immediate Action(s)



- Every type of ammunition, explosives or weapon system has required immediate action(s) in the event of a malfunction. The Unit Leadership and Range OIC and Range Safety Officer should be trained and provide supervision during the conduct of training for the required immediate action(s)



# • SAFETY ALERT

## MISSFIRE/HANGFIRE



**EXPLOSIVE MISHAP:** An Artilleryman was injured while attempting to fire a M777 Howitzer. They attempted to fire the weapon system twice and it was believed to be a firing linkage lever malfunction. The Artilleryman was instructed to hook the lanyard directly to the firing mechanism but firing mechanism fell off. The Artilleryman was instructed to put the firing mechanism back on and while attempting to reconnect the firing mechanism the howitzer fired the carriage struck the Artilleryman in the head.

**Misfire.** A misfire is a failure of a round to fire after the initiating action is taken. This may be due to a failure in the functioning of the primer, igniter, propelling charge, or firing mechanism. A misfire in itself is not dangerous; it cannot be immediately distinguished from a hangfire. Therefore, misfires must be treated as delayed firings until determined otherwise.

**Hangfire.** A hangfire is a delay in the functioning of the primer, igniter, or propelling charge. The delay, although unpredictable, ranges from a fraction of second to several



**ADHERANCE TO THE APPROPRIATE IMMEDIATE ACTION PROCESS ARE VITAL TO THE SAFETY OF MARINES AND SAILORS. FAILURE TO FOLLOW THE IMMEDIATE ACTION PROCEDURES IN ALL CASES OF WEAPONS AND/OR EXPLOSIVES MALFUNCTIONS , (MISFIRES, HANGFIRES, ETC...) CAN RESULT IN DEATH OR SERIOUS INJURIES.**



# SHAKE DOWN



## Safety Violations

- Importance of shakedowns
- This ammo was found at a civilian airport.
- Shakedown of personnel and their gear should be conducted prior to leaving the Range!!!!





# Ammunition Technician / Aviation Ordnance Technician

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- Ammo Tech's / Aviation Ordnance Tech's serve as the command's subject matter expert pertaining to A&E.
- Both Ammo Tech's/Aviation Ordnance Tech's shall be qualified, certified, and screened in accordance with MCO 8023.3B and MCO 5530.14A
  - They are your duty experts utilize them
  - Additional assistance can be obtained by your MSC G-4 Ammo Section



# Explosives Safety Representative

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- ESR serve as liaison between the unit and the installations ESO pertaining to explosives safety matters.
- Conduct explosives safety training to ensure that all unit personnel involved with A&E or trained prior to their assigned duties involving A&E.
- Ensure SOP's and Desk Top procedures for ammunition and explosives operations are developed.
- Perform required unit inspections.



# Identification of Explosives Operations



- Due to the inherent dangers associated with A&E, it is imperative that all accountability, storage, handling, transportation, and safety procedures be adhered to. One unintentional detonation could result in the failure of a unit to accomplish their mission, due to catastrophic losses to personnel, equipment, and/or supplies.
- The following slides breakdown various explosives operations;



# Transportation of A&E



- Transportation of A&E on and off station is authorized in trucks, full trailers, semi-trailers, double trailers, flatbeds, and stake sides (On Station Only).
- Every vehicle must have a closed body or have the load covered with a fire/water resistant tarpaulin. Tarps may be exempt for on station movement during clear weather.
- Government owned vehicles may be used to transport A&E up to 100 miles one way from a Marine Corps installation. Requires Installation



# Transportation of A&E

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- Pick up trucks equipped with hard covers securely bolted to the side rail of the cargo compartment, with a lockable tailgate may be used to transport limited quantities of A&E for short distances off base.



# Storage of A&E

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- There are 3 common forms of storage of A&E.
  - **Permanent Storage (ASP)**
  - **Range Storage** (is the staging of A&E on a specific range or training area in support of the weapons being used on that range or a training area)
  - **Field Storage** (intended for temporary storage of A&E for training and contingency operations)



# Handling of A&E

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- A&E shall be handled in a manner so as to prevent shock and friction that may cause a fire or explosion or damage to the material.
- A&E will never be thrown, dropped, dragged, or tumbled.
- Handling of A&E shall be reduced to a minimum.
- Precautions shall be taken to avoid the contact of A&E with sand, gravel, dirt, and other abrasive or spark producing substances.



# Excessive Breakout

- Officers in Charge must ensure that only the A&E that will be expended is unpackaged .
- Excessive A&E breakout is not authorized!
- Only open the items you intend to fire at that particular time.





# UXO



- UXO are ammunition items that were fired, thrown, or launched from their platforms but failed to function. They are ALWAYS considered “**Exceptionally Dangerous**”.

## ➤ **The 3 R's**

- 1. **RECOGNIZE** the item as an UXO.
- 2. **RETREAT** the same way you entered
- 3. **REPORT** the location to your supervisor, Range Control.
- Just getting too close to an UXO may cause it to explode or begin to function.
- EOD personnel are the ONLY technicians authorized to handle UXOs
- Contact Range Control: BLACKBURN 451-3064/4449
  - <http://www.denix.osd.mil/uxo/> Provides educational material for UXO



# Hazards of Electromagnetic Radiation to Ordnance

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- **HERO SAFE** - Any Ordnance item that is proven by test or analysis to be sufficiently shielded, or otherwise so protected that all EID's contained by the item are immune to adverse effects.
- **HERO SUSCEPTIBLE** - Any Ordnance containing EID proven by test or analysis to be adversely affected by RF energy to the point that safety and/or reliability of the system is in jeopardy.



# Hazards of Electromagnetic Radiation to Ordnance

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- **HERO UNSAFE** – Any Ordnance item, whose inadvertent initiation or detonation causes an immediate catastrophic event that has the potential to either destroy equipment or injure personnel
- **HERO UNRELIABLE** – Any Ordnance items, whose performance is degraded due to exposure to the RF environment.



# HERO Cont.



- HERO Warning Symbols and Labels alert the radio and portable emitter systems operators of the potential HERO hazards.
  
- Low-power transceiver devices such as cell phones, active pagers, Computer Tablets, and some walkie-talkies automatically transmit RF





# HAZARD IDENTIFICATION FOR FIRE FIGHTING



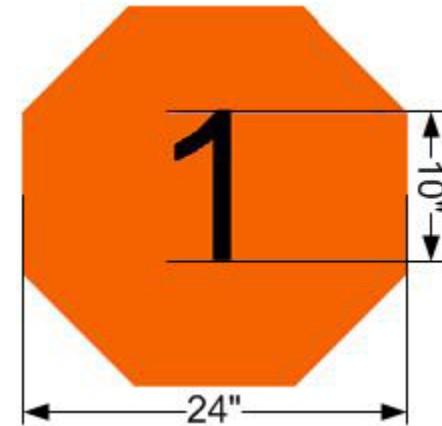
## FIRE SYMBOL #1

### Mass Detonation Hazard

These explosives can detonate when involved in a fire and should not be fought unless a rescue attempt is being made.

Withdrawal distance is 2,500 ft/4,000ft

Examples - Hand Grenades,





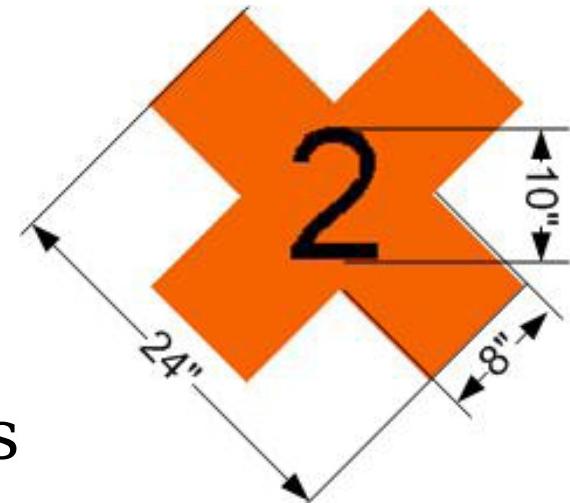
# HAZARD IDENTIFICATION FOR FIRE FIGHTING



## FIRE SYMBOL #2

### *Explosion With Fragmentation Hazard*

Attempt to extinguish the fire if it is in an early stage. Prevent spreading of the fire if possible, detonation of items could occur.



Withdrawal distance is 2,500 ft

Examples - 20mm HE, 40mm HE, and M115 simulators



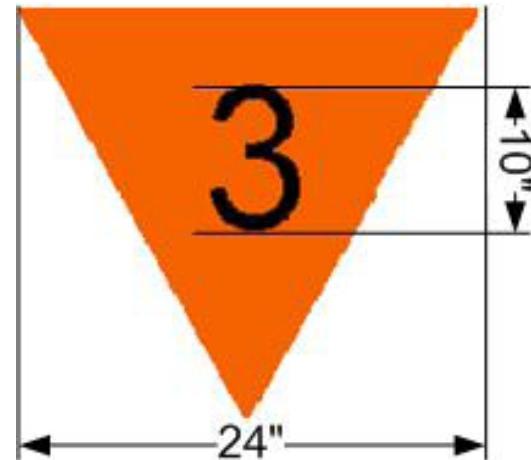
# HAZARD IDENTIFICATION FOR FIRE FIGHTING



## FIRE SYMBOL #3

### ***Mass Fire Hazard***

These fires may be fought if explosives are not directly involved.



Withdrawal distance is 600  
ft

Examples - Flares,  
grenades, and white star





# HAZARD IDENTIFICATION FOR FIRE FIGHTING



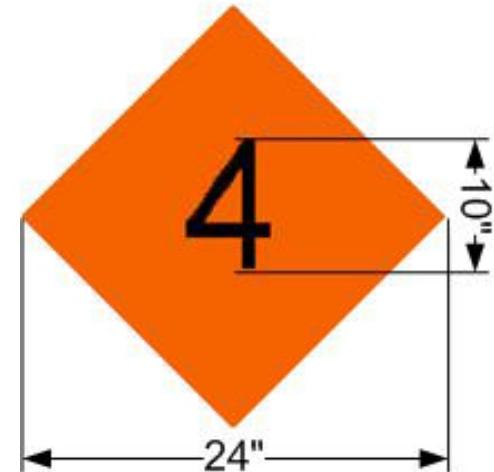
## FIRE SYMBOL #4

### ***Moderate Fire Hazard***

First Responder: (Security Forces)  
will fight these fires

Withdrawal distance is 300 ft

Examples - 7.62mm, 5.56mm, .38cal, and 9mm ammunition.  
Also, 40mm TP and M25A1 grenades





# Identify the hazards associated with Explosive Operations



- Rough Handling of A&E.
- The use of improper procedures and tools.
- Exposure of A&E to excesses of certain conditions.
- Natural events such as lightning.
- Safety situations due to byproducts or residue from the A&E from operations of A&E.



# Reports



- MLSR Reporting
- Malfunction/Defect Reporting
- Explosive Mishap report
- In addition to the above notification to Range Control is also required



# Explosives Mishaps

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- Explosive Mishaps are accidents or incidents involving conventional ordnance, ammunition, explosives, explosives systems, and devices resulting in an unintentional detonation, firing, deflagration, burning, launching of ordnance material.
- All accidents and incidents will be reported as an Explosives Mishap Report (EMR) using the WESS.
- Mishap reporting is normally completed by the unit safety representative.



# Defect Reporting



- Any A&E with a defect that may prevent the item from functioning as intended or results in a malfunction will not be used.
- Employment of a defective A&E item may result in casualties and or weapons damage.
- When a defect is detected the following actions are required;
  - Return the defective item to the ASP
  - A Defect report will be submitted within 5 days of the defect being Identified.



# MALFUNCTION/DEFECT



- “All” malfunctions get reported/info required
- Time lines – initial telephonic/24 hrs/96 hrs/15 days
- Phone numbers:
  - ESO- 910 451- 6281 / 910-554-9175
  - II MEF – 451-8898
  - II MARDIV - 451-8378
  - CLNC ASP – 451-2949 (Duty Tech) / 451- 4722
  - Camp Pend ASP – (760) 725-3202
  - Camp Pen ESO (760) 763-4817
  - CMA – (760) 830-4879 / (760) 830-3603
  - CMA ESO - (760) 830-8464
  - MARCORSYSCOM (PMAM) – 378-9495 or (703) 784-9175
  - HQMC Command Center – 255-7366 or comm: (703) 695-3366



# MALFUNCTION



- MARCORSYSCOM/PM AMMO will:
  - Review all malfunction and defect reports;
  - In addition to the Mishap Report requirements, units experiencing a Class A, B, or C Malfunction shall contact MARCORSYSCOM within 8 hours of malfunction by telephone.
  - Class D Mishaps will be reported within 96 hours of malfunction.
  - Conduct formal investigations involving 36 casualties, equipment damage, and



# MALFUNCTION



- Class A – Any Malfunction resulting in Fatality or Permanent Total Disability, or property damage is excess of 2 million dollars.
- Class B – Any Malfunction resulting in Permanent Partial Disability, or when 3 or more personnel are hospitalized for impatient care, or property damage between 500,000 and 2 million dollars.
- Class C – Any Malfunction resulting in one or more days from work or property damage between 50,000 and 500,000 dollars.
- Class D – Property damage below 50,000 dollars.



# MLSR



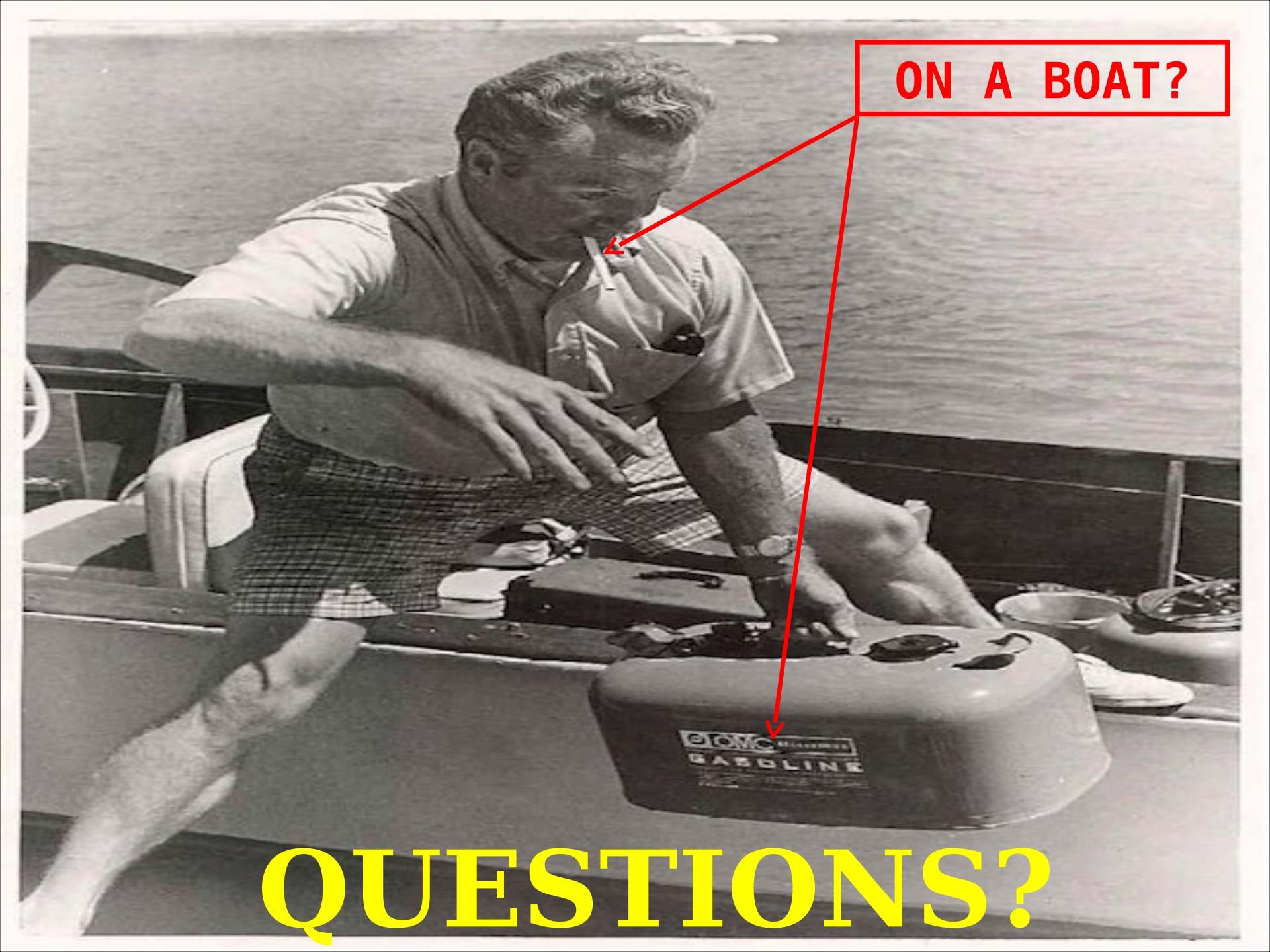
- MCO 5530.14A ( Appendix L)
- Maintain paperwork for current FY plus previous two FY's
- Time lines - initial telephonic(Injury/Fatality)/48 hours
  - Small arms 20mm or smaller (over 1000 rds)
  - Individual rounds of 20mm and larger
  - One or more rockets / mine
  - Any device containing explosive material
  - Maintain paperwork for current FY plus  $2^{38}$



# References



- MCO 5530.14A – Marine Corps Physical Security Program Manual
  - MLSR reporting
- MCO P8020.10B – Management & Explosives Safety
- MCO 8025.1E – Malfunction and Defect Reporting
- MCO P5102 .1B Navy and MC Mishap and Safety

A black and white photograph of a man with dark hair, wearing a light-colored polo shirt, leaning over the side of a boat. He is looking down at a large metal gasoline can sitting on the deck. The can has a label that reads "GOING GASOLINE". A red arrow points from the word "ON A BOAT?" in the top right corner to the man's head, and another red arrow points from the word "QUESTIONS?" at the bottom to the gasoline can.

ON A BOAT?

QUESTIONS?